<u>REMARKS</u>

Applicant respectfully requests the Examiner's reconsideration of the present application. No claims have been cancelled. Claims 1, 4-7, 10-11, 13-14, 18 -19, 22-25 and 28-29 have been amended. No new claims have been added. Therefore, claims 1-30 are presented for examination.

Claim Amendments

Applicant has amended the claims to more particularly point out what Applicant regards as their invention. No new matter has been added as a result of these amendments.

Rejections Under 35 U.S.C. §102

Kim

Claims 1-9, 11, 13-16 and 19-27 stand rejected under 35 U.S.C. §102(b) as being anticipated by Kim, U.S. Patent No. 5,818,363 ("Kim"). Applicant respectfully submits, however, that the present claims are not anticipated by Kim.

Kim discloses performing a Discrete Cosine Transform (DCT) on a block of pixels to code a digital video signal into a set of transform coefficient data. The set of transform coefficient data is quantized to a set of quantized transform coefficients data and subsequently zigzag scanned to generate a stream of data having a plurality of zeros and non-zero values. Thereafter, the data stream is runlength coded. Kim references Figure 1 in describing an apparatus for employing the runlength encoding. The quantized transform coefficients data is stored in a buffer, then subsequently converted into run-level pairs, wherein the runlength represents the number of zeros in a run of continuous zeros preceding a non-zero value and the

level indicates the magnitude of the non-zero value following the run of continuous zeros. (Kim, col. 1, ll. 23-58, Fig. 1).

Claims 1 and 19, as amended, include the limitation of receiving a group of bit plane data having a group of set values. Claims 7 and 25, as amended, include the limitation of loading a group of bit plane data into a buffer, the group of data having one or more set bits. Claim 14, as amended, includes the limitation of a buffer to host a group of bit plane data having a group of one or more set bits. Applicant respectfully submits that Kim does not disclose these limitations. Instead, Kim discloses run length encoding of a stream of quantized transform coefficients. The claim limitations are drawn to a group of bit plane data. As used in Applicant's Specification and as commonly understood in the art, a bit plane is a two-dimensional array of value bits for a particular bit position in pixel values of an image. The quantized transform coefficients disclosed by Kim are not equivalent to the claimed group of bit plane data. Accordingly, it is respectfully submitted that independent claims 1, 7, 14, 19 and 25 and claims 2-6, 8-9, 11, 13, 15, 16, 20-24 and 26-27 that depend from them, are not anticipated by Kim. Therefore, Applicants respectfully request the withdrawal of the rejection of the claims under 35 U.S.C. §102(b).

Craver

Claims 1-11, 13-16 and 19-28 stand rejected under 35 U.S.C. §102(e) as being anticipated by Craver, U.S. Patent No. 6,529,554 ("Craver"). Applicant respectfully submits, however, that the present claims are not anticipated by Craver.

Craver discloses run length encoding of DCT coefficients. Video data is transformed to DCT coefficients, which are loaded into SIMD registers in a desired

scanning order. Once the packed data registers hold the coefficients in the desired reordered sequence, each value is then checked to determine if it falls within a range regarded to be zero or near-zero. Those coefficients outside of the near zero boundary range are regarded as non-zero coefficients. From the determination of which coefficients are non-zero, a bitmask is created identifying which coefficient is non-zero. In one embodiment described, a bit is associated with each coefficient so that those bits identifying the non-zero coefficients are set and those coefficients which are regarded as near zero have a value of zero.

Claims 1 and 19, as amended, include the limitation of receiving a group of bit plane data having a group of set values. Claims 7 and 25, as amended, include the limitation of loading a group of bit plane data into a buffer, the group of data having one or more set bits. Claim 14, as amended, includes the limitation of a buffer to host a group of bit plane data having a group of one or more set bits. Applicant respectfully submits that Craver does not disclose these limitations. Craver is directed to loading <u>DCT coefficient data</u> into packed data registers. The claim limitations are drawn to a group of <u>bit plane data</u>. DCT coefficient as disclosed by Craver are not equivalent to the claimed group of bit plane data. Accordingly, it is respectfully submitted that independent claims 1, 7, 14, 19 and 25 and claims 2-6, 8-9, 11, 13, 15, 16, 20-24 and 26-28 that depend from them, are not anticipated by Craver. Therefore, Applicant respectfully requests the withdrawal of the rejection of the claims under 35 U.S.C. §102(e).

Rejections Under 35 U.S.C. §103(a)

Kim or Craver in view of Kyser

Claims 18 and 29 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Kim, in view of Kyser, U.S. Patent No. 3,678,259 (Kyser) or Craver, in view of Kyser. Applicant respectfully reserves the right to challenge the use of Craver as prior art. Applicant respectfully submits that the present claims are patentable over Kim or Craver in view of Kyser.

Kyser discloses a device for counting the number of consecutive leading zeros, starting with the most significant digit, in a digital word. A gate for each digit in the binary word is used. Gates are interconnected so that they pass information only when the particular digit signal applied thereto is a zero and only when all of the higher order digits are also zeros. The outputs of the gates are applied to a plurality of adders where they are counted, and the total is presented at the output.

Claim 18 depends from independent claim 14, and claim 29 depends from independent claim 25. As discussed above, neither Kim nor Craver teach or suggest a group of bit plane data, as claimed in independent claims 14 and 25. Applicants further submit that Kyser does not teach or suggest a buffer to host a group of bit plane data, as claimed in claim 14, nor does Kyser teach or suggest loading a group of bit plane data into a buffer, as claimed in claim 25. Accordingly, Applicant respectfully submits that claims 18 and 29 are not rendered obvious by Kim or Craver in view Kyser, and requests the withdrawal of the rejection of the claims under 35 U.S.C. §103(a).

Kim or Craver in view of Hicks

Claims 12, 17 and 30 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Kim, in view of Hicks, et al., U.S. Patent No. 6,516,330 (Hicks) or Craver, in view of Hicks. Applicant respectfully submits that the present claims are patentable over Kim or Craver in view of Hicks.

Hicks is directed to counting the number of set bits in an n-bit data word in a data processing system. Hicks discloses a method for counting the number of set bits in data words using a lookup table to count bits in part of the word and then sum the results from the lookup operations for the individual parts. A lookup table may be provided which indicates the bit count for each possible value of a nibble, byte or 16-bit string. Hicks discloses that this type of process involves memory references for accessing the lookup table which can be slow on some system architectures and requires a lot of memory, and that large lookup tables may not fit into processor memory caches so storage fetches can be expensive in terms of processor time.

Claims 12, 17 and 30 depends from independent claims 7, 14 and 25 respectively. As discussed above, neither Kim nor Craver teach or suggest a group of bit plane data, as claimed in independent claims 7, 14, and 25. Applicants further submit that Hicks does not teach or suggest loading a group of bit plane data into a buffer, as claimed in claims 7 and 25, nor does Hicks teach or suggest a buffer to host a group of bit plane data, as claimed in claim 14. Accordingly, Applicant respectfully submits that claims 12, 17 and 30 are not rendered obvious by Kim or Craver in view Hicks, and requests the withdrawal of the rejection of the claims under 35 U.S.C. §103(a).

Conclusion

Applicant respectfully submits that in view of the amendments and discussion set forth herein, the applicable rejections have been overcome and the pending claims are in condition for allowance.
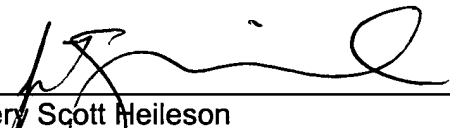
If the Examiner determines the prompt allowance of the claims could be facilitated by a telephone conference, the Examiner is invited to contact Scott Heileson at (408) 720-8300.

Authorization is hereby given to charge our Deposit Account No. 02-2666 for any charges that may be due. Furthermore, if an extension is required, then Applicant hereby requests such extension.

Respectfully submitted,

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